

Terrabase

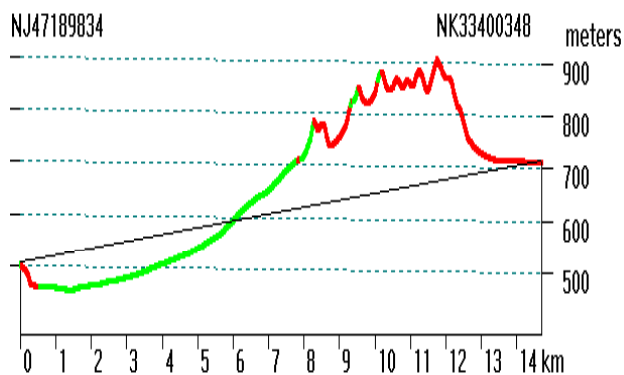
What is Terrabase?

Terrabase II is an easy to use PC-based, Government Off-the-shelf (GOTS) software used to exploit geospatial data and provide Tactical Decision Aids (TDA). The software allows users at the tactical level to visually display and analyze terrain data for mission planning when topographic assets are unavailable. Terrabase provides TDA used for staff Course of Action (COA) war-gaming analysis and command decision-making.

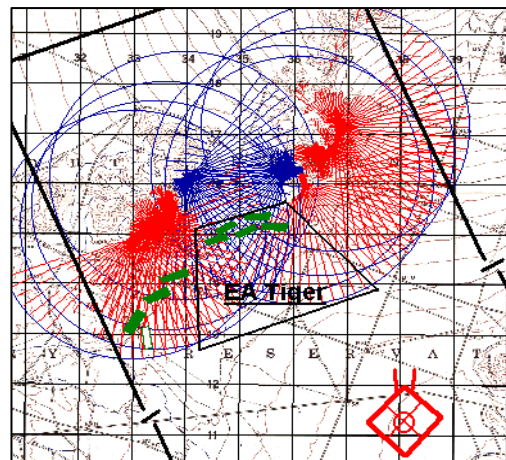
Why Use Terrabase?

Because terrain plays a major impact on land operations, Army units have high demands for topographic analysis products. Organic Army Topographic support, located at Corp and Division Level, may be unable to quickly respond to brigade and lower requests. During a tactical scenario, commanders may be required to visualize the battlefield without the advantage of terrain walks. Terrabase displays and analyzes terrain data to produce mission specific TDA products required by the commander for mission analysis, such as:

Line-of-sights (LOS) displays



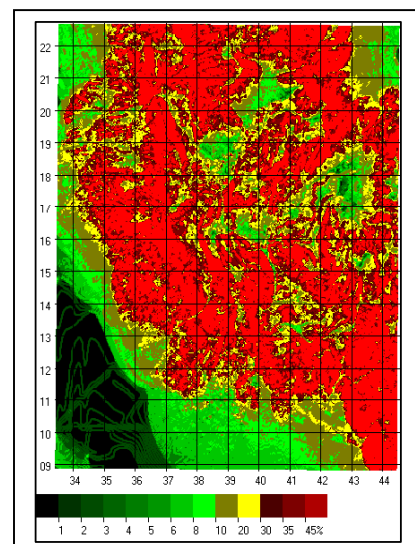
Weapons fan and Range Circles



as well as visibility plots, oblique and perspective views, elevation and slope tints, contour and reflective view, and fly-thrus.

Using Terrabase, battle staffs possess the ability to rapidly generate their own products and assist the commander in decision-making process. Examples of analysis products used by brigade and battalion S-2 and S-3 staff include:

1. Cross Country Mobility (CCM)
2. Combined Obstacle Overlay (COO)
3. Lines of Communication (LOC)
4. Elevation Layer
5. River Crossing Sites
6. Trajectory Fire of Weapons Systems
7. Concealment from Ground Observation
8. Visibility Assessment (Masked Area Plots and Line-of-Sight Profiles)
9. 3D Perspective Views
10. Hardcopy and Power Point Briefing Graphics



How can I get Terrabase?

Unclassified software, User's Guide and Battle Drills are available to the public at no charge from Terrain Visualization web site at

<http://www.wood.army.mil/tvc/>.

The Naval Academy writes Terrabase software. The current version of his software can be found at

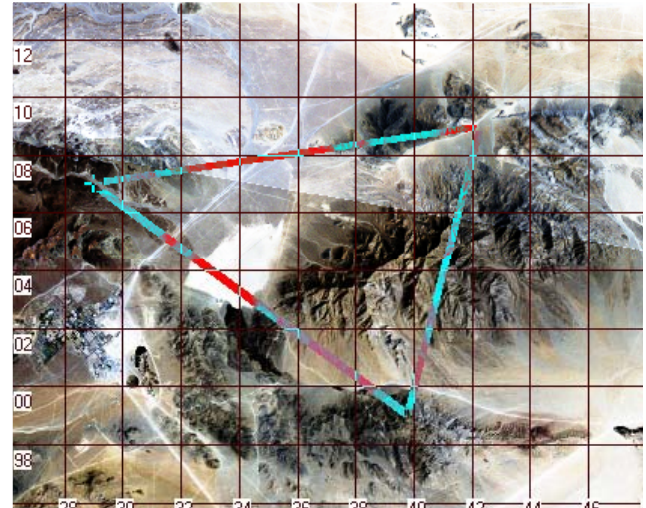
<http://www.usna.edu/Users/oceano/pguth/website/microdemo.htm>.

How can I get Training Materials and Tutorials?

Battle Drills are the starting point for those interested in learning the software. Battle Drills are 4-5 hours of self-paced learning and focus on producing terrain analysis products. Terrabase II Version 3.0, available on CD, provides an audio tutorial and is an excellent teaching aid. Students may browse the "SHOW ME" applications to learn specific keystrokes required for producing specific products. The Battle Drill and User's Guide provide step-by-step procedures for developing basic TDAs. Software, User's Guide and Battle Drills are available from the Terrain Visualization web site at

<http://www.wood.army.mil/tvc/>.

NATO Cross Country Mobility Model



Imagery overlaid on elevation data

How can I get Data?

Terrabase software does not provide a source of digital data. Data may be acquired via the Internet, supply system, or Defense Logistics Agency (DLA) Electronic Catalog special order. With prior planning, some form of digital data is readily available for most areas the U.S. military will deploy. The two primary sources of digital geospatial data are 1) National Geospatial-Intelligence Agency (NGA) and 2) U.S. Geological Survey (USGS).

Terrabase exploits three types of geospatial data.

1. Digital Elevation Model (DEM) and Digital Topographic Elevation Model (DTED®)
2. Imagery (LANDSAT, SPOT, CIB®, DOQ, Mr. Sid, .LAN and .img files)
3. Scanned Map Data (e.g. ADRG, CADRG, DRG)

Assets and Limitations

As can be expected from most free software, certain assets and limitations exist. Perhaps the single greatest strength of the software is that soldiers possessing a moderate degree of computer skills can produce time-sensitive TDA products for mission planning. Using standard PC-based hardware, Terrabase allows users to rapidly generated products prior to deployment when sufficient terrain team support is unavailable. This is particularly useful when a brigade or battalion commander experiences a crisis and are able to generate their own products and analysis to meet the tactical requirement. Some limitations exist. First, the software was not designed as a complete terrain analysis tool or a replacement for such a tool (i.e. Terrabase is not ERDAS IMAGINE or Arc-Info). Second, it is not stand-alone terrain evaluation or mission planning software. While Terrabase provides some capability to manipulate geospatial information, it will not provide a robust geospatial processing and data management capability to replace the Army Digital Topographic Support System (DTSS).

Terrabase is free software useful for creating terrain analysis products with minimal user training when direct topographic support is unavailable. The software provides Army units *at brigade level and below* with topographic products when terrain walks are impractical. Commanders require terrain analysis to perform combat operations and it is useful for them to possess the capability to generate their own mission specific TDA. There are shortfalls with Terrabase capabilities and it is not intended to replace the DTSS for exploiting geospatial data.

Points of Contact

NGA Terrabase Expert – Geospatial Analyst deployed at Ft. Leonard Wood (573) 329-1911.

US Army Topographic Engineering Center has a wealth of information at www.tec.army.mil.

Software and Resources - http://www.tec.army.mil/what_products.html.

Terrain Visualization Software Survey - <http://www.tec.army.mil/TD/tvd/survey/index.html>.